AnCam™ 6100

Multi-Analyte Test Reader

Features

- Reads most manufacturers' single and multi-target coupons
- Coupons are examined using machine vision to minimize human error
- Results, time, and GPS location are automatically archived
- Transmits data and images to headquarters via local cellular network
- Provides early warning upon strong positive
- Warns user of defective coupons, incorrectly inserted coupons, or no control line
- Water resistant, durable case
- Compact design

Application Areas

- Field detection of bioterrorism threat agents
- Medical pathogens
- Drugs of abuse
- Food safety
- Veterinary testing
- Environmental testing

The AnCam™ 6100 is an extremely versatile portable multi-analyte test reader and cellular communication device usable with virtually any single or multi-target lateral flow coupon. Lateral flow immunoassay tests (coupons) are used to detect and identify bioterrorism threat agents; medical pathogens; drugs of abuse; environmental toxins; food-borne pathogens; and animal disease, to name a few. In all cases the tests are designed with the assumption that the results will be determined by visual inspection of the coupon. However, humans are subject to a variety of visual frailties, particularly in situations of high stress or low light. A simple visual examination may also not detect manufacturing defects, out-of-date reagents, and errors in procedure. The AnCam 6100 replaces the human eye with an independent evaluation of the entire test protocol as well as the results. Human and ambient lighting issues are removed.

The AnCam 6100 Multi-Analyte Test Reader uses a modified smart phone to provide a highly integrated solution that combines machine vision, proprietary signal processing algorithms, GPS-based locating capabilities, data storage and data transmission in one compact package, along with standard smart phone capabilities such as texting, email, and Bluetooth-enabled communications. This smart phone-based system can also detect signals not easily visible to the eye, increasing test sensitivity. With calibration, quantitative measurements can be obtained instead of the typical Yes/No result.

The AnCam 6100 reader helps the user perform each test correctly and provides preliminary estimates as the test progresses. For example, many tests of this type are assumed to require a 15-minute incubation period. Proprietary machine vision algorithms provide unprecedented sensitivity and reliability. In most cases where there is a reasonable concentration of the target material, a positive reading will become apparent as early as five minutes into the incubation, greatly reducing the time to detection.

The AnCam 6100 can be used to analyze coupons that have been previously incubated, or for monitoring the development process in a new coupon from the point of fluid sample introduction to final outcome. Fluid sample flows and the concentration of colored reagents within all coupon channels are monitored to determine that the proper amount of fluid sample was used, and that the coupon incubation protocol is proceeding normally.

If some channels pass signal-to-noise criteria that indicate the targeted material is present, the AnCam 6100 will notify the user immediately that the substance has been found. This may occur significantly before the formal incubation period has ended and can be of considerable value. Threat detection response times can be reduced by a factor of three.

Once the assay incubation period is complete, results may be transmitted to a remote location as a text message or email using the local cellular network. All images and assay calculations involving the assay are stored in the AnCam 6100's internal memory for later examination, and optionally on its SD card.

AnCam 6100™ Specifications	
Lateral flow cassette compatibility	Most commercially available tests including 1, 5, and 8 analyte coupons
Image recognition/processing	Proprietary high-resolution algorithms
Types of analysis	Single measurement or tracked incubation Qualitative or quantitative results
Protocol Identification	Recognition of visual coupon features
Camera and machine vision engine	Customized embedded cellular phone provides GPS/map functions
Processing time	Results within seconds Early warning provided in the event of a strong positive
Archival capabilities	Date and time; user ID; coupon information; GPS latitude/longitude; one or more coupon photographs saved for later analysis
Communication	WiFi and cellular network; send assay result message to selected cell phone numbers or email addresses
Hardcopy output	Via Bluetooth printer or Wi-Fi printer
Size	205 x 121 x 109mm
Weight	1280 grams
Temperature range	0° to 50°C
Power	Internal lithium-ion battery
Standby operating time	5-10 days

CBRN International reserves the right to change specifications without prior notice.